

August 9, 2002

Dr. Scott A. Masten  
Office of Chemical Nomination and Selection  
NIEHS/NTP  
P.O. Box 12233  
MD A3-07  
Research Triangle Park, NC 27709

Re: Comments Relating to Sodium Metasilicate (6834-92-0), a Substance Nominated to the National Toxicology Program and Recommended for Study by the ICCEC. 67 Fed. Reg. 40329-40333 (June 12, 2002)

Dear Dr. Masten:

Occidental Chemical Corporation (OxyChem) has been a major manufacturer of silicate products, including sodium metasilicate, for many years. This compound is used in fireproofing mixtures, in laundry, dairy, metal, and floor cleaning. Sodium metasilicate is also used in de-inking paper products, washing carbonated drinking bottles, as an additive in soaps and synthetic detergents, and in insecticides, fungicides, and antimicrobial preparations. In detergents, sodium metasilicate has been used as a precipitating builder for calcium and magnesium. And in cosmetic formulations, this compound is a chelating agent and corrosion inhibitor.

The pentahydrate form is considered generally recognized as safe (GRAS). The pentahydrate is used in washing mixtures for fruits and vegetables, in sanitizing solutions for food-contact surfaces, in boilers waters, as a denuding agent for tripe, as a hog scald agent for the removal of hair, and as a cooling and retort water agent for the prevention of staining of the outside surfaces of canned goods.

OxyChem is against the recommended inhalation testing program as nominated in the Federal Register. This chemical has been manufactured and used safely for many years. The major reason for metasilicate's use and lack of respiratory effects is due to the fact that the product particle sizes are in the non-respirable range.

Because of the large particle size conducting an inhalation study is highly questionable without altering the product. In which case, we question the appropriateness of the study results to extrapolate to humans. In addition there are other chemical/physical properties of this material that must be taken into account before one would attempt an inhalation study.



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Moreover, inhaled soluble silicates would rapidly dissolve in the upper respiratory tract, generally not reaching the lower regions of the lung. Thus, effects would include primary irritation due to alkaline pH. In addition, sodium metasilicate has been safely produced for decades, particularly without reports of sensitivity (except for one suspected case reported by Tanaka, et al. (1982).

In conclusion, OxyChem believes that sodium metasilicate is not appropriate for listing as a substance recommended for subchronic inhalation and respiratory hypersensitivity studies because of the following facts:

- that the chemical is not normally present in a respirable size,
- contact or respiratory sensitization is not known in the working or consumer populations,
- inhaled sodium metasilicate is captured in the upper respiratory region and rapidly degraded and excreted, and
- that there are decades of use indicating this chemical is safe (as reviewed and affirmed by expert panels)

Thank you for the opportunity to comment on this nomination. If you have any questions regarding this letter, please do not hesitate to contact me.

Respectfully yours,

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